

### **REMARKS**

Applicant has carefully reviewed and considered the Final Office Action mailed on December 15, 2006, and the references cited therewith.

Claims 1, 2, and 23 are amended, claim 6 is canceled, no claims are added, and claims 30-54 are withdrawn; as a result, claims 1-5, 7-29 are now pending in this application.

#### **§ 112 Rejection of the Claims**

Claim 2 was rejected under 35 USC § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicant regards as the invention. Applicant has amended claim 2 to more clearly recite the claimed subject matter.

Claims 1-22 were rejected under 35 USC § 112, second paragraph, as being incomplete for omitting essential steps, such omission amounting to a gap between the steps. Applicant has amended claim 1 to more clearly recite the claimed subject matter.

Based on the forgoing, Applicant respectfully requests reconsideration and withdrawal of the 112 rejection for claims 1-22.

#### **§ 102 Rejection of the Claims**

Claims 1, 3-6, 8-10, 12-14, 16, and 23-28 were rejected under 35 USC § 102(b) as being anticipated by U.S. Patent No. 6,180,239 to Whitesides, et al. (hereinafter "Whitesides"). Applicant respectfully traverses the rejection as follows.

Applicant respectfully submits that Whitesides does not teach all the elements recited in claim 1 and claim 23 as amended. For example, Whitesides does not appear to teach applying a solution of organic molecules having self-assembling properties to a planar aligning surface and separating the aligning surface from the substrate, leaving patterns of the organic molecules on the substrate, as provided in claims 1 and 23. In the Final Office Action, it was asserted that, "Whitesides clearly illustrates (Figures 1d,

2a-2e, 4a-4d, 8a, 9b-9d, 16a) the formed patterns, and even describes the gap (38) in the patterns (Col. 8, Lines 29-32)." (Page 2). However, Whitesides provides,

Referring to FIGS. 1a-1d, a method for applying a self-assembled monolayer of a molecular species to a surface that involves controlled, reactive spreading of the species on the surface is illustrated schematically. The method results in two or more self-assembled molecular monolayers, or two or more regions of a single self-assembled molecular monolayer, that are very closely spaced on the surface. At FIG. 1a, a stamp 20 is illustrated having a surface 22 including a plurality of indentations 24 formed therein that form an indentation pattern. The indentations are contiguous with a stamping surface 26 that defines a stamping pattern. The stamping pattern includes closely-spaced features, that is, the indentations are closely-spaced and this results in the presence of closely-spaced protrusions, the outward-facing surfaces of which define the stamping surface 26. (Col. 7, lines 4-19).

Whitesides then goes on to state, "Referring to FIG. 1b, stamp 20 is placed, in a predetermined orientation, adjacent to article 30 such that stamping surface 26 contacts article surface 28." (Col. 7, lines 33-35).

Hence, Whitesides appears to disclose a stamping surface 26 that can be coated with a molecular species 27 to form an ordered self-assembled layer thereupon. However, Whitesides does not appear to teach applying a solution of organic molecules to a planar aligning surface, contacting the aligning surface with the substrate, and separating the aligning surface from the substrate, leaving patterns of the organic molecules on the substrate, as provided in claims 1 and 23 as amended.

Instead, Whitesides appears to teach that the stamp 20 includes a plurality of indentations 24 formed therein that define a stamping pattern. The stamping pattern appears to allow Whitesides to form the "well-defined, very closely-spaced regions of species 27 on surface 28." (Col. 8, lines 39-41). However, Whitesides does not appear to teach applying the solution of organic molecular to a planar aligning surface. Instead, Whitesides appears to teach that the stamp 20 is maintained in contact with article 30 for a period of time sufficient to allow species 27 to spread over surface 28 to a desired extent, thus, the species 27 spreads from each portion of stamping surface 26 towards an

adjacent portion (Col. 8, lines 22-30). Therefore, Whitesides does not appear to teach leaving patterns of organic molecules on a substrate by applying a solution of organic molecules on a planar aligning surface, contacting the aligning surface with the substrate, and separating the aligning surface from the substrate, as provided in claims 1 and 23, as amended.

Based on the forgoing, Applicant respectfully submits that Whitesides does contain each and every element and limitation of independent claims 1 and 23, as amended. As such, Applicant respectfully submits that Whitesides does not support a 102(b) rejection of claims 1 and 23. Applicant respectfully requests reconsideration and withdrawal of the 102(b) rejection for independent claims 1 and 23, as well as those claims which depend therefrom.

#### § 103 Rejection of the Claims

Claims 11, 15, and 22 were rejected under 35 USC § 103(a) as being unpatentable over Whitesides, in view of U.S. Patent No. 6,562,398 to Braach-Maksvytis, et al. (hereinafter "Braach-Maksvytis"). Applicant respectfully traverses the rejection as follows.

Claims 11, 15, and 22 depend from independent claim 1, which is in condition for allowance for at least the reasons stated above. That is, Whitesides does not teach each and every element contained in Applicant's independent claim 1. Braach-Maksvytis does not cure the deficiencies of Whitesides. For example, Braach-Maksvytis does not describe, teach, or suggest, independently or in combination, applying a solution of organic molecules to a planar aligning surface, contacting the organic molecules on the aligning surface with the substrate, and separating the aligning surface from the substrate, leaving patterns of the organic molecules on the substrate, as provided in independent claim 1 as amended.

As such, Applicant respectfully submits that each and every element and limitation of independent claim 1 as amended is not taught or suggested by Braach-Maksvytis and Whitesides, either individually or in combination. Accordingly,

Applicant respectfully requests reconsideration and withdrawal of the 103(a) rejection of dependent claims 11, 15, and 22.

Claims 17-19 were rejected under 35 USC § 103(a) as being unpatentable over Whitesides, in view of U.S. Patent No. 5,578,351 to Shashidhar, et al. (hereinafter "Shashidhar"). Applicant respectfully traverses the rejection as follows.

Claims 17-19 depend from independent claim 1, which is in condition for allowance for at least the reasons stated above. That is, Whitesides does not teach each and every element contained in Applicant's independent claim 1. Shashidhar does not cure the deficiencies of Whitesides. For example, Shashidhar does not describe, teach, or suggest, independently or in combination, applying a solution of organic molecules to a planar aligning surface, contacting the organic molecules on the aligning surface with the substrate, and separating the aligning surface from the substrate, leaving patterns of the organic molecules on the substrate, as provided in independent claim 1 as amended.

As such, Applicant respectfully submits that each and every element and limitation of independent claim 1, as amended, is not provided, taught or suggested by Shashidhar and Whitesides, either individually or in combination. Accordingly, Applicant respectfully requests reconsideration and withdrawal of the 103(a) rejection of dependent claims 17-19.

Claims 21 and 29 were rejected under 35 USC § 103(a) as being unpatentable over Whitesides, in view of U.S. Patent No. 6,465,054 to Effenberger (hereinafter "Effenberger"). Applicant respectfully traverses the rejection as follows.

Claims 21 and 29 depend from independent claims 1 and 23, respectfully, which are in condition for allowance for at least the reasons stated above. That is, Whitesides does not teach each and every element contained in Applicant's independent claims 1 and 23-as amended. Effenberger does not cure the deficiencies of Whitesides. For example, Effenberger does not describe, teach, or suggest, independently or in combination, applying a solution of organic molecules to a planar aligning surface,

contacting the aligning surface with the substrate, and separating the aligning surface from the substrate, leaving patterns of the organic molecules on the substrate, as provided in independent claims 1 and 23, as amended.

As such, Applicant respectfully submits that each and every element and limitation of independent claims 1 and 23, as amended, are not provided, taught or suggested by Effenberger and Whitesides, either individually or in combination. Accordingly, Applicant respectfully requests reconsideration and withdrawal of the 103(a) rejection of dependent claims 21 and 29.

*Allowable Subject Matter*

Applicant thanks the Examiner for identifying that Claim 7 will be allowable if rewritten to overcome the rejection(s) under 35 USC 112, second paragraph, set forth in the Office Action and all of the limitations of the base claim and any intervening claims. Applicant has amended claim 1 to more clearly recite the claimed subject matter, and hence, requests reconsideration and allowance of claim 7.

Conclusion

Applicant respectfully submits that the claims are in condition for allowance and notification to that effect is earnestly requested. The Examiner is invited to telephone Applicant's attorney Gregg W. Wisdom at (360) 212-8052.

At any time during the pendency of this application, please charge any additional fees or credit overpayment to the Deposit Account No. 08-2025.

**CERTIFICATE UNDER 37 CFR §1.8:** The undersigned hereby certifies that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail, in an envelope addressed to: MS AF Commissioner for Patents, P.O. BOX 1450 Alexandria, VA 22313-1450, on this 3<sup>rd</sup> day of February, 2007.

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